

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
CENTRAL REGION

BRUSH HOOK

ROAD PLAN

SECTION 35, 36, TOWNSHIP 18 NORTH, RANGE 04 WEST, W.M.  
THURSTON COUNTY

BLACK HILLS DISTRICT

AGREEMENT NO.: 30-074998

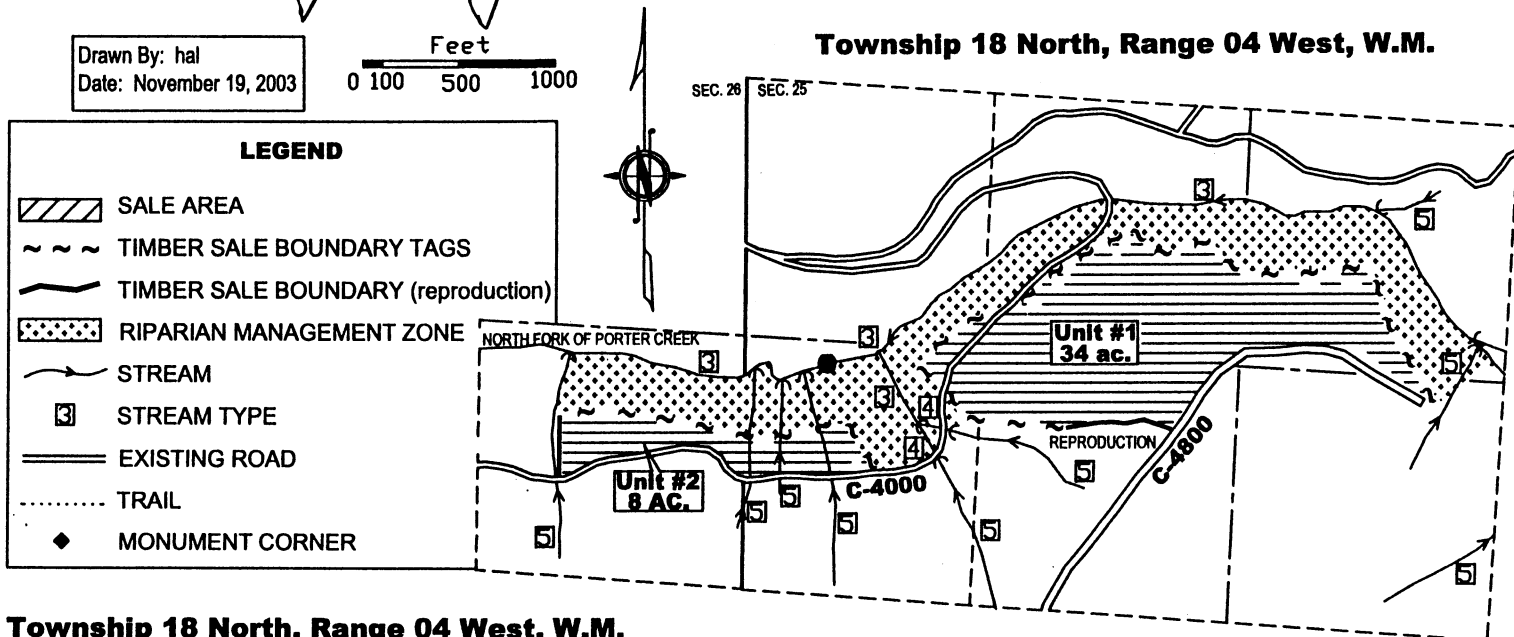
CONTRACT ADMINISTRATOR: Jim LeJeune

DATE: 07/01/2003

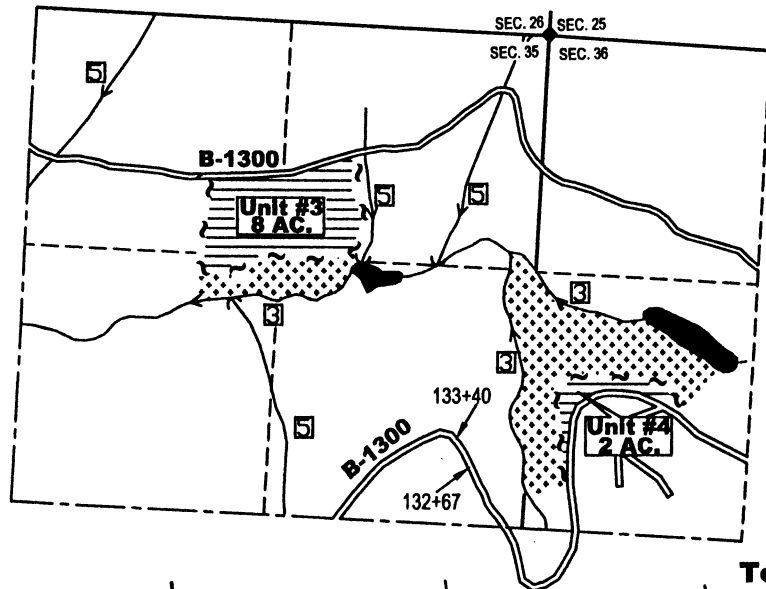
STAFF ENGINEER: Cameron Rittich

APPROVED BY: *Jim LeJeune*

DRAWN & COMPILED BY: Alicia Compton

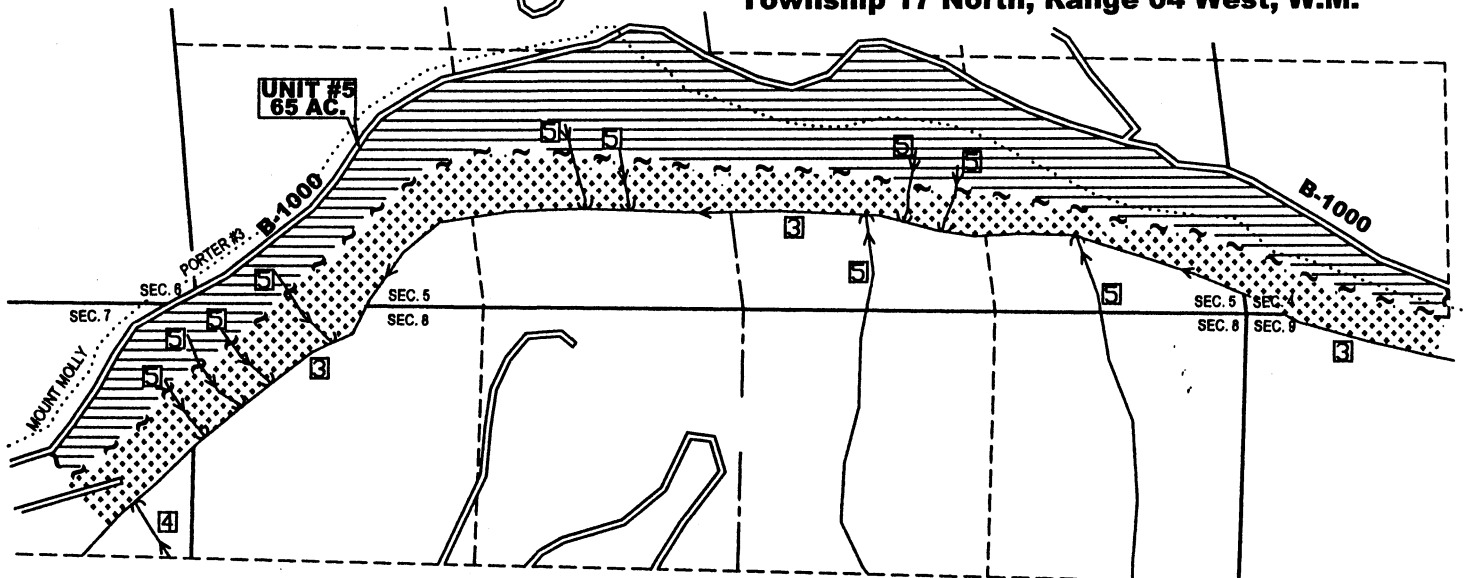


**Township 18 North, Range 04 West, W.M.**



INDEX	Page #
Specifications .....	2-4
Road Plan Map .....	5
Road Maintenance Specifications .....	6
Live Stream Culvert	
Removal Procedure .....	7
Water Bar Detail .....	8
Road Abandonment	
Cross Sections Detail .....	9
"T" Tank Trap Detail .....	10
Fill Removal Detail .....	11
Settling Pond and Pump Detail .....	12

**Township 17 North, Range 04 West, W.M.**



SECTION 0 – SCOPE OF PROJECT

This project includes but is not limited to:

- landing construction;
- deactivation;
- medium abandonment.

SECTION 1 - GENERAL CLAUSES

- 1.1-1  
Clauses in this plan apply to all abandonment including landings unless otherwise noted.
- 1.1-2.1  
Abandonment of the following road is required. Road shall be abandoned in accordance with this Road Plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
B-1300	73+00 to 74+58	Deactivation
B-1300	74+58 to 132+67	Medium
B-1300	132+67 to 133+40	Deactivation

- 1.1-4  
If the Purchaser desires a road location or design change, a revised Road Plan shall be submitted to the State for consideration.
- 1.1-5  
On this plan quantities are minimum acceptable values. Additional quantities required by the State because of hidden conditions or Purchaser's choice of construction season or techniques shall be at the Purchaser's expense. Hidden conditions include, but are not limited to: solid subsurface rock, subsurface springs, saturated ground, and unstable soil.
- 1.2-1  
The abandonment of any road specified herein shall not be permitted between September 30 and May 1 unless authority to do so is granted, in writing, by the Contract Administrator.
- 1.3-1A  
Hauling shall be suspended when wheel track rutting exceeds 6 inches unless Purchaser elects to correct the situation at his/her own expense. Corrective measures and continued operations are subject to written approval by the Contract Administrator.
- 1.4-3  
Reference points (R.P.'s) that are moved or damaged at any time during construction shall be reset in their original locations by the Purchaser. Excavation and embankment shall not proceed on road segments controlled by said R.P.'s until all moved or damaged R.P.'s are reset.
- 1.5-1  
Maintenance on roads listed in Contract Clauses C-50 (Purchaser Road Maintenance and Repair) and C-60 (Designated Road Maintainer) shall be performed in accordance with Forest Access Road Maintenance Specifications.
- 1.5-3  
Snowplowing shall not be permitted unless authorized, in writing, by the Contract Administrator.

SECTION 5 - EXCAVATION

- 5.1-16B  
The amount of material to be contained in a waste area shall be at the discretion of the Contract Administrator.
- 5.1-21  
Waste material shall not be deposited within 50 feet of a cross drain culvert installation.

5.1-22

Waste material shall not be deposited within 100 feet of a live stream.

5.3-1

All embankment and waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts.

5.4-1

Silt-bearing runoff shall not be permitted to go into streams.

5.4-2

Accomplish sediment removal through silt traps, silt fences, settling ponds, or other methods as approved, in writing, by the Contract Administrator.

5.4-3A

On the following road, Purchaser shall furnish and evenly spread the seed mixture listed below on all exposed soil inside the grubbing limits at a rate of 40 pounds per acre. The date of application is subject to approval by the Contract Administrator.

<u>Mixture Percent by Weight</u>	<u>Minimum Percent Germination</u>
50% Fescue, Red	90% Germination
25% Ryegrass, Perennial	90% Germination
15% Bentgrass	85% Germination
10% Clover, White and White Dutch (inoculated)	90% Germination

Weed seed shall not exceed 0.5% by weight.

Seed shall be furnished in standard containers on which the following shall be shown:

1. Common name of seed
2. Net weight
3. Percent of purity
4. Percentage of germination
5. Percentage of weed seed and inert material

Required seed not spread by the termination of this contract shall become property of the State.

<u>Road</u>	<u>Stations</u>	<u>Seed Quantity</u> <u>(lbs)</u>
B-1300	74+58 to 132+67	205

SECTION 9 - ROAD AND LANDING DEACTIVATION

9.1-1

The following road shall be deactivated by the Purchaser prior to the termination of this contract.

<u>Road</u>	<u>Stations</u>
B-1300	73+00 to 74+58
B-1300	132+67 to 133+40

9.1-2

Deactivation shall consist of:  
constructing drivable water bars in conformance with the attached DRIVABLE WATER BAR DETAIL at a maximum spacing of 50 feet.

9.2-1

Purchaser shall reduce or relocate landing debris, in a manner approved, in writing, by the Contract Administrator, to avoid landing failures and potential debris slides.

- 9.2-2
- Purchaser shall provide for drainage of the landing surface as approved, in writing, by the Contract Administrator.
- 9.2-3
- Landing embankments shall be sloped to original construction specifications.

SECTION 10 - ROAD AND LANDING ABANDONMENT

- 10.1-1
- The following road shall be abandoned by the Purchaser prior to the termination of this contract and according to the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
B-1300	74+58 to 132+67	Medium

- 10.1-1B
- Medium Abandonment shall consist of:

removing embankments, sidecast fill, and placing material into cutbanks and shaping banks to conform with natural ground (104+63 to 105+90 and 123+93 to 130+73);

constructing non-drivable water bars, as directed by Contract Administrator, in conformance with the attached NON DRIVABLE WATER BAR DETAIL at a maximum spacing which will produce a vertical drop of no more than 10 feet between water bars or between natural drainage paths and with a maximum spacing of 100 feet (74+58 to 104+63, 105+90 to 123+93, and 130+73 to 132+67);

skewing water bars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3% grade;

keying water bars into ditchline;

construction of tank trap barriers in conformance with the attached "T" TANK TRAP DETAIL;

removing culverts from State Land;

removing ditch cross drain culverts and leaving the resulting trench open;

sloping all trench walls and approach embankments no steeper than 1.5:1;

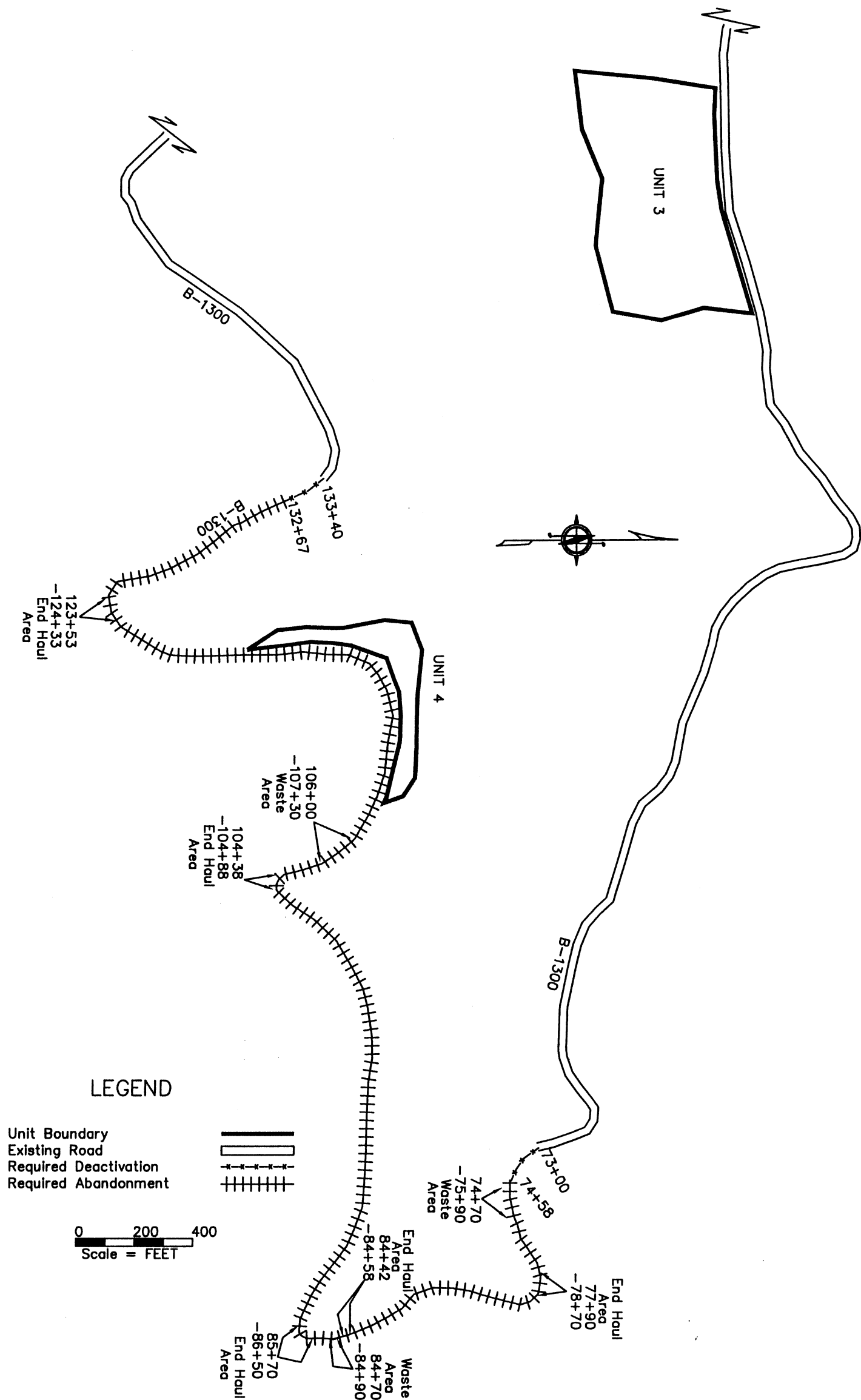
grass seeding concurrently with abandonment and in accordance with Clause: 5.4-3A;

covering, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with a 8 inch deep layer of straw.

- 10.1-4A
- On the following road, Purchaser shall remove existing culverts from live streams and leave the resulting trench open with excavation slopes and trench bottom as specified. The trench bottom shall conform to natural stream profile. Excavated material shall be placed in the waste area specified or alternate waste areas as approved by the Contract Administrator. Culvert removal from live streams shall be in accordance with the Hydraulic Project Approval, FILL REMOVAL DETAIL, SETTLING POND AND PUMP DETAIL, and the LIVE STREAM CULVERT REMOVAL PROCEDURE.

<u>Road</u>	<u>Fill Removal Stations</u>	<u>Waste Area</u>	<u>Slope Ratio</u>	<u>Trench Width (ft)</u>
B-1300	77+90 to 78+70	74+70 to 75+90	3:1	18
B-1300	84+42 to 84+58	84+70 to 84+90	3:1	2
B-1300	85+70 to 86+50	74+70 to 75+90	3:1	20
B-1300	104+38 to 104+88	106+00 to 107+30	2:1	10
B-1300	123+53 to 124+33	106+00 to 107+30	3:1	20

BRUSH HOOK  
ROAD PLAN MAP



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

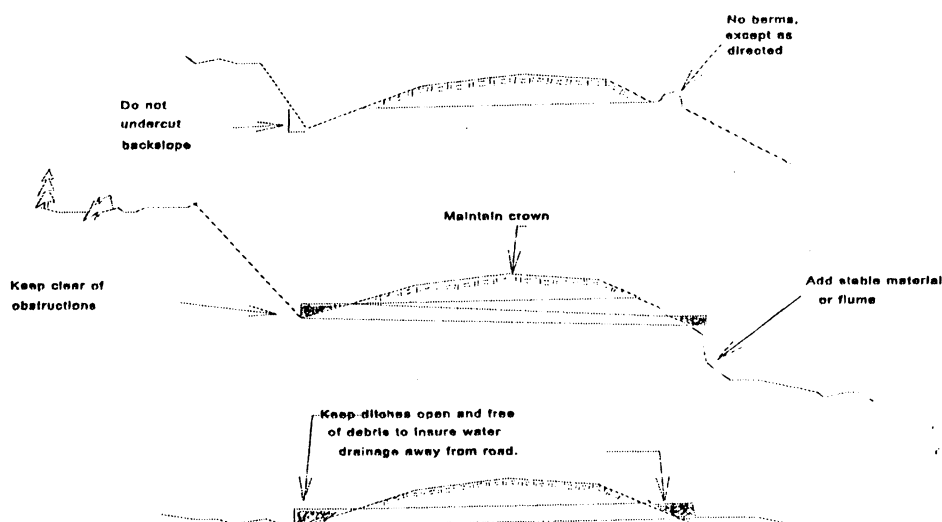
FOREST ACCESS ROAD  
MAINTENANCE SPECIFICATIONS

1. CONSTRUCTION AND RECONSTRUCTION (Prior to acceptance to the contract or acceptance on a timber sale).
  - A. Cuts and Fills
    1. Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1½:1 slopes with selected material or as directed. Remove overhanging material from the cut slopes.
    2. Material from slides or other sources requiring removal shall not be deposited in streams or at locations where it will erode into streams or water courses.
    3. Undesirable slide materials and debris shall not be mixed into the surface material.
  - B. Surface
    1. Grade and shape the road surface, turnouts, and shoulders to the original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
    2. Blading must not undercut the backslope at the bottom of the ditchline or cut geotextile at centerline.
    3. Watering may be required to control dust and to retain fine surface rock.
    4. Desirable surface material shall not be bladed off the roadway.
    5. Replace surface material lost or worn away.
    6. Remove berms except as directed by the State.
    7. Barrel spread soft spots to prevent degradation of geotextile.
  - C. Drainage
    1. Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions and functioning as intended.
    2. Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This must be done even during periods of inactivity.
    3. Add stable material at the outlet end of the culvert as needed to stabilize the stream bed.
    4. Headwalls: maintain to the road shoulder level with material that will resist erosion.
    5. Keep silt bearing surface runoff from getting into live streams.
  - D. Structures

Repair bridges, culverts, cattleguards, fences, and other road structures to the condition required by the construction specifications.
  - E. Termination of Use or End of Season

Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch, and culvert cleaning and water bars.
  - F. Debris

Remove fallen timber, limbs, and stumps from the slopes or roadway.



## LIVE STREAM CULVERT REMOVAL PROCEDURE

Order of work is as follows, deviations shall be approved, in writing, by the Contract Administrator.

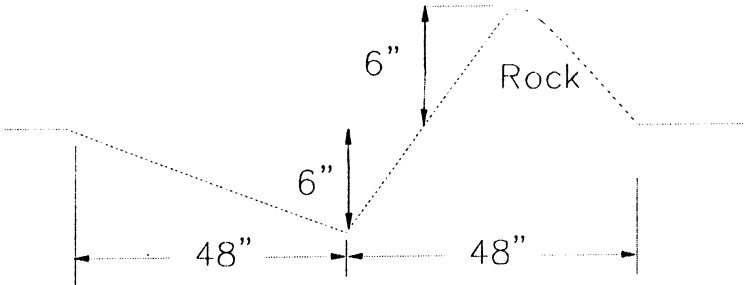
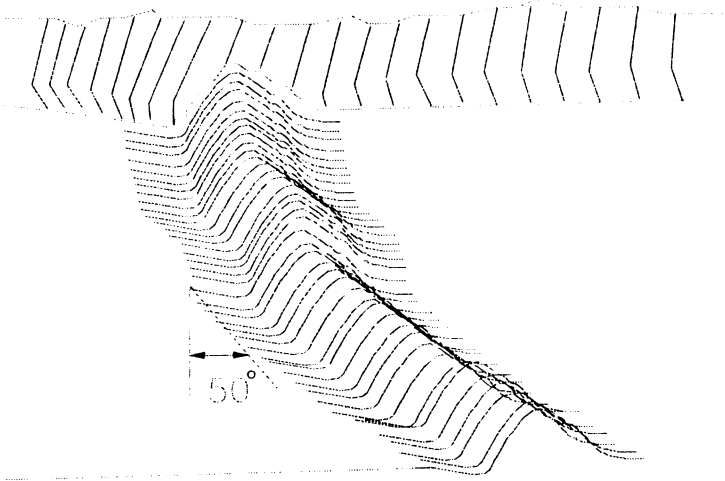
- 1) Purchaser shall notify the State of intent to start project, and a pre-work conference shall be held before move in of equipment. State will designate a representative that will remain on site at all times when work is being performed in creek channel.
- 2) Assemble the items on the "Materials List" onsite before proceeding.
- 3) Remove 95% of fill (see FILL REMOVAL DETAIL) and end haul to waste site specified in clause 10.1-4A.
- 4) Set up pumps (2 required, with one as backup).
- 5) Dam up stream with sandbags and line floor of dam with plastic (to prevent sub-surface water flow), place clean rock on plastic to hold in place, and key leading edge of plastic into channel bottom - see SETTLING POND AND PUMP DETAIL. Build a settling pond at culvert outlet. Fill may need to be removed before the settling pond installation due to space limitations. Pump clean water at catch basin around work site and back into stream. Dirty water shall be pumped away from site and onto forest floor a minimum of 200 feet from live streams.
- 6) Remove remainder of fill and culvert.
- 7) Restore creek channel to dimensions shown in clause 10.1-4A.
- 8) Backfill settling pond.
- 9) Cover exposed soils within 100 feet of all live streams with straw (minimum depth of 8 inches) and grass seed.

### Materials List:

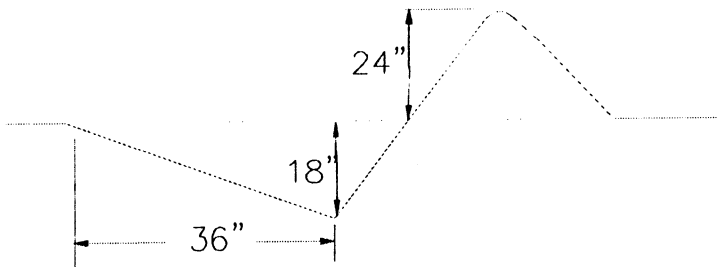
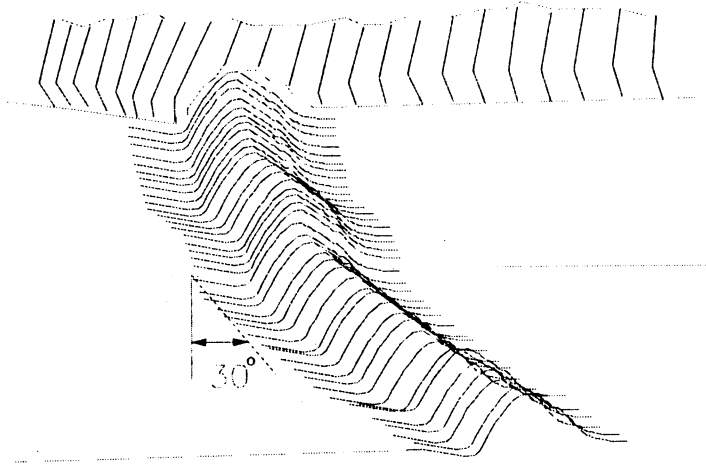
- 2 pumps, (one as a backup) The clean water pump (dam at culvert catch basin) shall have a minimum capacity of 800 gallons per minute. The dirty water pump (settling pond) and the backup pump shall each have a minimum capacity of 600 gpm. Culvert removal should not start during rain or threat of rain;
- 4,000 square feet plastic sheet;
- 200 feet of silt fence and stakes;
- 60 bales of straw.

WATER BAR DETAILS

DRIVABLE WATER BAR

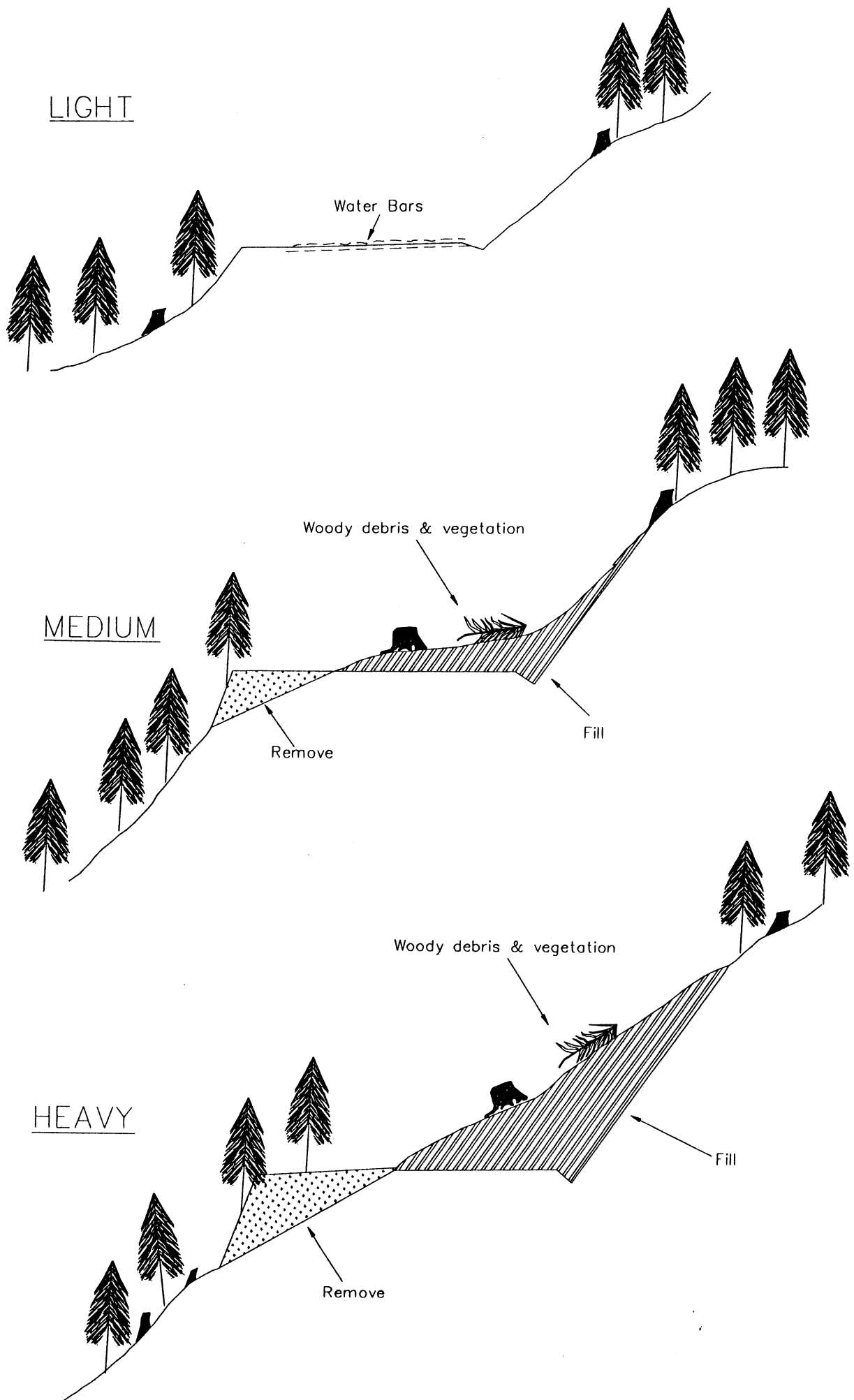


NON-DRIVABLE WATER BAR

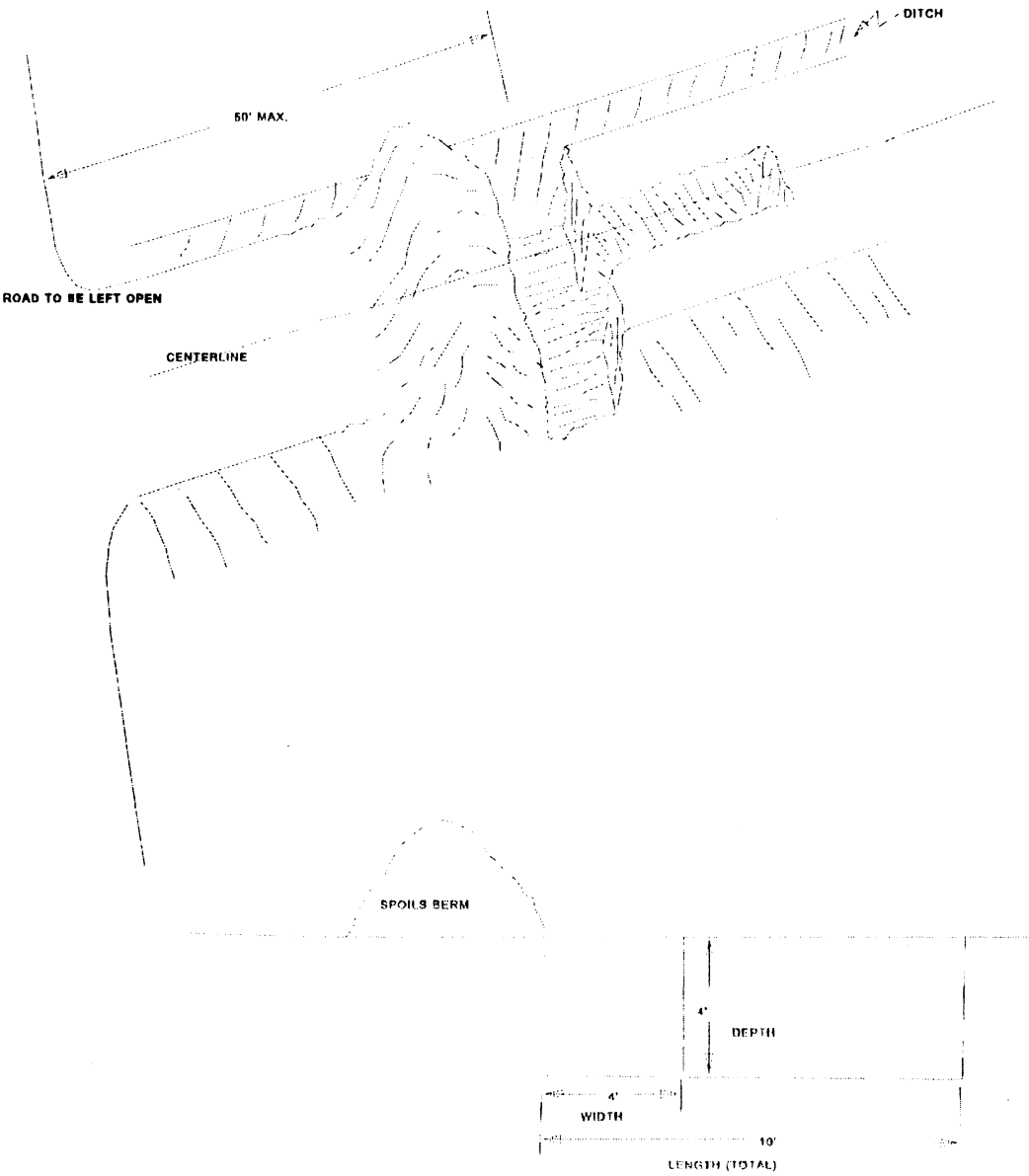




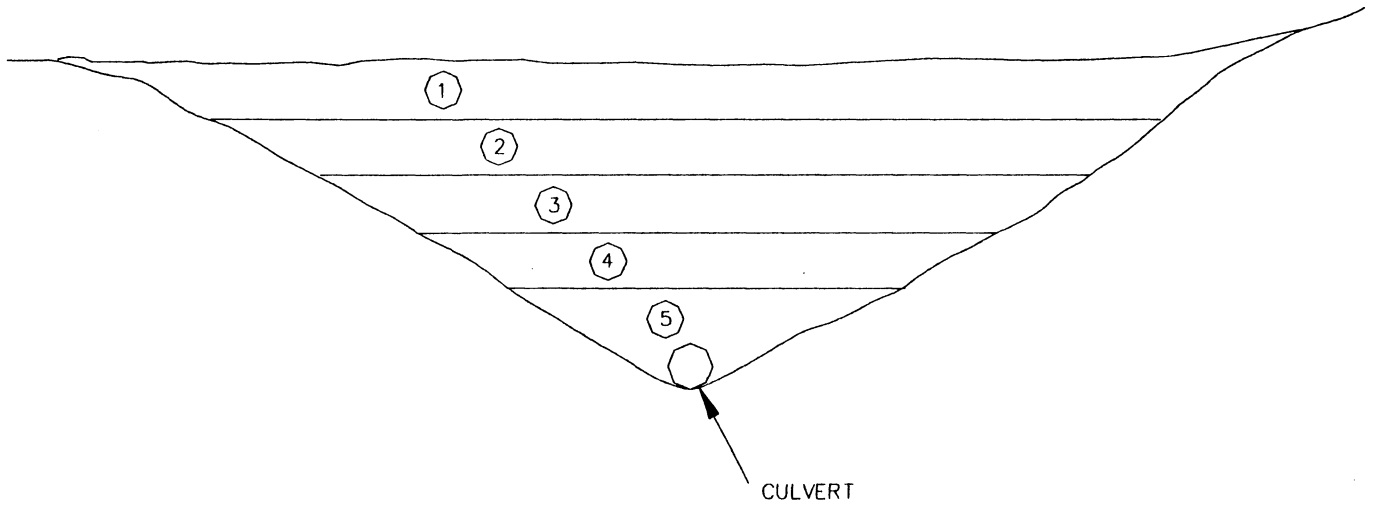
# ROAD ABANDONMENT CROSS SECTIONS



"T" TANK TRAP DETAIL



## FILL REMOVAL DETAIL



- Remove fill in layers not to exceed 3 feet.

SETTLING POND AND PUMP DETAIL

